

## REMARKS

In the office action mailed March 10, 2003, claims 1, 2 and 17 are rejected under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claims 1-6, and 11-16 are rejected under 35 USC §103(a) as being unpatentable over Elliott et al. (U.S. patent 6,431,875 B1) in view of Stuppy (US Patent 6,146,148). Claims 8 and 18 are rejected under 35 USC §103(a) as being unpatentable over Elliott et al. in view of Stuppy and in view of Mishkin (U.S. Patent 6,377,781 B1). Finally, claims 9, 10, 19 and 20 are rejected under 35 USC §103(a) as being unpatentable over Elliott et al. in view of Stuppy in view of Siefert (U.S. Patent 6,386,883 B2).

In response to the rejection of claims 1 and 2 as being directed to a method of evaluating group-administered tests but not setting forth a step of evaluating class profiles, Applicant respectfully requests reconsideration. However, each of the claims includes at least one step which would be considered an evaluation step. Namely, claim 1 includes a step of “comparing each class profile with the normative profile on a question by question basis.” Similarly, claim 2 includes a step of “identifying individual ones of the class profiles that excessively deviate from the normative profile on a question-by-question basis.” Applicant submits that such steps would broadly be considered evaluation steps, and therefore the claims are not ambiguous.

In response to the rejection of claim 11, Applicants have amended the claim to more clearly claim a step of providing a set of sub-group profiles wherein each sub-group profile comprises a plurality of individuals whose test item responses are exposed to “a common element affecting test administration.” Applicant respectfully submits that the claim is no longer ambiguous.

## RESPONSE TO REJECTIONS UNDER 35 USC §103(a)

The evaluation of the present Application requires differentiating the expected variation among test results, which is common in all test settings, and the unexpected variation identified by the Applicant's invention. The inventor has looked for variation in an area where it should not exist and found it, by the method of the invention, by holding the normal, expected variation constant. As a consequence, when an unexpected intrusion of an improper influence on

the test administration is present, the invention of this application is uniquely poised to detect it. The following information should make this point clear.

Individual test results are expected to vary. The entire purpose of testing is to devise instruments (tests) on which individual performance varies and to then measure individual results against the pattern of variation established by other individuals who take the same test (i.e., Elliott, Col. 2 Lines 35-42 & 60-67) or against performance standards (i.e., Siefert, Col. 8, Lines 7-24; Brown et al., Col. 4, Lines 3-6). When test developers devise their instruments, they are equally determined to eliminate variation due to non-test characteristics. Thus, for example, the reading requirements are minimized on math tests and all test takers are given the same set of test instructions. Over the length of the twentieth century, test developers have improved their art to create test content more accurately focused to its intended purpose, to construct the test materials or software to represent the content without changing its difficulty or adding additional constraints, and to specify the test instructions and administration to provide each test taker with the same, neutral opportunity to express his or her capabilities. All this with the single purpose to ensure that variation in the test results reflects individual differences on the test construct.

Just as individual, and even group, test scores are expected to vary with the capabilities of the test takers, the pattern of internal test performance that sums up to their test results is expected to be consistent. Relatively difficult questions are expected to be relatively difficult for all test takers and in all test taker groups (i.e. classrooms). The relative difficulty of each test question is reflected in the percentage of test takers who answer the question correctly. Easy question: high percent correct; difficult question: low percent correct. These question by question percentages may be assembled, over all the questions of the test, to make up a group or classroom profile. Anyone profile should be unremarkable, other than the percentages, in general, may be higher or lower depending on the skill level of the group. Nevertheless, the percentages should rise at the easier questions and fall at the more difficult questions in a similar pattern for all groups. The pattern of this profile should be consistent even when the test scores, by individual or by group, vary. This consistency underlies test score reliability. The power of this consistency, in the presence of normal, construct related variation, to set a norm and illuminate instances of improper influence is clearly unanticipated by the prior art.

In each of the references to the prior art cited by the prior review of this application, the unit of analysis is student or test taker behavior and the references to norms or standards are to normative student or test taker behaviors (i.e., Mishkin, Col. 7, Lines 44-47; Siefert, Col. 8, Lines 61-64 & Col. 11, Lines 27-33; Stuppy, Col. 10, Lines 41-49). In nearly all such references, these norms are expected to reflect student or test taker variation on the construct of the test. In the case of Elliott, there are suggestions of norms of test takers who cheat and of test taker response times (Elliott, Col. 18 Lines 23-48). In all of the cited references, there is no indication of potential variation in test results due to the test administrator or due to a common element affecting test administration. Quite the contrary, Elliott credits test administrators as guarding against variations due to cheating (Elliott, Col. 17, Lines 16-20).

In the invention of the Applicant, the unit of analysis is the question-by-question pattern of group behavior under the direction of a test administrator or subject to a common element affecting test administration. In such groups, individual behavior is subsumed to the group. Groups may vary in skill level (the construct of the test) such that higher skilled groups will achieve a higher success rate (higher percents correct) on the test and lower skilled groups a lower success rate (lower percents correct). But, the pattern of relatively higher and lower percents correct within the profile, on a question-by-question basis, will remain essentially the same for both higher and lower skill groups. Significant variation in the pattern among group profiles, on a question-by-question basis, will most likely be due to variations in behavior initiated by the test administrator, not by the students or test takers.

Thus, while the methods of organization of data or of statistical analysis may be applied to both the norms of student behavior and the norms of test administrator behavior, the behaviors are categorically different and unrelated. The great gap between them is evidenced by the large number of instances of alleged teacher cheating, the earnest efforts by experts in the field to confirm or disconfirm the allegations, and yet the failure of any prior development of the method of the Applicant's invention. The inventor has applied the method of the invention in a large number of test administration reviews. These reviews have confirmed the normal consistency of group test item response patterns (group or classroom profiles) and the sharp divergence that occurs when an improper influence has been applied.

In response to the rejection of Claims 1-6, and 11-16 under 35 USC §103(a) as being unpatentable over Elliott et al. (U.S. patent 6,431,875 B1) in view of Stuppy, Applicants respectfully submit that the claims are allowable over a combination of Elliott and Stuppy. As set forth in Applicant's response mailed August 11, 2003, Elliott fails to disclose a set of class profiles by test administrator, or generating a normative profile indicative of normative class performance on the selected test, where the members of each class included in the normative profile are subject to the direction of a test administrator on the selected test. Unlike Applicant's invention which addresses generating class profiles by test administrator, as set forth in claims 1 and 2 for example, Elliott addresses problems related to tests administered over the internet. For example, Elliot suggests using certain decoy questions and response times to detect cheating. Stuppy is cited for teaching a system "developing student profiles on a battery of tests that are subject to the direction of a computer administrator, that the tests are scored and norm comparisons are made, and that student results are tracked and managed by the computer administrator." However, Stuppy is directed to a system for tracking individual students performance against a norm, not (i) comparing each of the class profiles with a normative profile, as required in claim 1, (ii) identifying individual ones of the class profiles that deviate excessively from the normative profiles on a question-by-question basis, as required in claim 2, or (iii) evaluating administration of the selected test based on the comparison of each of the sub-group profiles with the normative profiles on a question by question basis, as required in claim 11. ✓

In particular, Stuppy discloses a system where a student takes the assessment test and answers electronically using the pen or other input device, and the answers are scored electronically so that the student's initial assessment is free of scoring and administration errors. The student may also receive a battery of tests which are generally designed to identify the ability to perform different tasks or the mastery of certain learning objectives or skills. The assessment tests are scored and analyzed by computer to generate a student profile which is then utilized by the system of Stuppy to generate a learning program suited to that student and deliver electronic student workbooks. The student profile contains, among other data, skill gaps which need to be filled by further instruction. Ongoing assessments during the use of the system are used to expand and update the profile. (Col. 4, lines 52-57). However, neither reference discloses any evaluation based upon class profiles or sub-group profiles as claimed by Applicant.

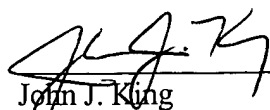
Accordingly, Applicant submits that any combination would not lead to Applicant's invention as claimed.

In response to the rejection of Claims 8 and 18 under 35 USC §103(a) as being unpatentable over Elliott et al. in view of Stuppy and in view of Mishkin, Applicant respectfully submits that these claims are clearly allowable over the cited art for the same reason that independent claims 1, 2 and 11 are believed allowable. Mishkin is cited as teaching that individual profiles may be accumulated into larger units as defined by sessions for entire classes and groups of classes, including any sub-grouping desired based upon the number of sessions taking the same quiz. Mishkin suggests accumulating "quiz data" (Col. 4, 50-59) and fails to disclose providing a set of class profiles by test administrator or providing sub-groups comprising a plurality of individuals whose test item responses are exposed to a common external influence as claimed by Applicant. Accordingly, any combination of the references would not lead to Applicant's invention for the same reasons set forth above.

Finally, in response to the rejection of Claims 9, 10, 19 and 20 under 35 USC §103(a) as being unpatentable over Elliott et al. in view of Stuppy and in view of Siefert, Applicant also respectfully submits that these claims are clearly allowable over the cited art for the same reason that independent claims 1, 2 and 11 are believed allowable. Siefert, which is directed to a computer assisted education program, also fails to disclose providing a set of class profiles by test administrator or providing sub-groups comprising a plurality of individuals whose test item responses are exposed to a common element affecting test administration, as claimed by Applicant. Accordingly, any combination of the references would not lead to Applicant's invention for the same reasons set forth above.

In view of the above amendments and remarks, Applicant respectfully requests reconsideration of the claims.

Respectfully submitted,

  
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John J. Kling  
Registration No. 35,918  
Attorney for Applicant

BRINKS HOFER GILSON & LIONE  
P.O. BOX 10395  
CHICAGO, ILLINOIS 60610  
(312) 321-4200